

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claims 1-9 (canceled).

10. (New) A safety system, comprising:

an electronic key having a transmitter; and

a secured object having a radio base station that includes a receiver, wherein the receiver communicates with the transmitter of the electronic key in order to exchange authentication data, and wherein the radio base station monitors a natural high frequency signal level received by the receiver, and wherein the radio base station detects an interference in the natural high frequency signal level in order to detect a relay station.

11. (New) The safety system as recited in Claim 10, wherein the radio base station generates random samples of a plurality of high frequency signal levels received via a plurality of frequency channels of the receiver.

12. (New) The safety system as recited in Claim 11, wherein the radio base station performs a noise test based on the random samples in order to detect the interference.

13. (New) The safety system as recited in Claim 12, wherein the noise test includes a condition that is considered to be satisfied if a selected number of the random samples exceed a predetermined threshold value.

14. (New) The safety system as recited in Claim 13, wherein the noise test is determined based on a Gaussian probability density function derived from the random samples.

15. (New) The safety system as recited in Claim 10, wherein the radio base station records over a selected time period a plurality of random samples for each of a plurality of frequency channels, in order to represent the natural high frequency signal level.

16. (New) The safety system as recited in Claim 12, wherein the radio base station and the key execute an access protocol for transmitting the authentication data, and wherein the access protocol includes a determination as to whether at least one of an access to the protected object and use of the protected object should be granted, based on the noise test.

17. (New) The safety system as recited in Claim 16, wherein the protected object is a vehicle (1).

18. (New) A method for performing a security monitoring by a safety system including an electronic key that has a transmitter and a radio base station that includes a receiver, the radio base station being associated with a protected object, the method comprising:

transmitting authentication data from the transmitter to the receiver;

monitoring by the radio base station a natural high frequency signal level received by the receiver; and

detecting an interference in the natural high frequency signal level, whereby the interference is used to determine an existence of a relay station.